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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Yoshiro Yamaguchi

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01/26/2009

OLIFF & BERRIDGE, PLC

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EXAMINER

DINH, DUC Q

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/940,801	<b>Applicant(s)</b> YAMAGUCHI ET AL.	
	<b>Examiner</b> DUC Q. DINH	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8 and 10, 12-13, 19, 21, 24-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon, II et al. (U.S Patent No. 6,271,823) hereinafter Gordon 823, in view of Gordon, II et al. (U.S Patent No. (U.S Patent No. 6,184,856), hereinafter, Gordon 856 and further in view of Oh-e et al. (U.S Patent No. 6,392,732).

In reference to claim 1, Gordon 823 discloses a reflective image display device (see abstract and col. 1, lines 13-16) comprising:

- a display substrate (2) having first side and a second side;
- a back substrate (4);
- an electrode (20) formed on the lower side of the display substrate (2);
- a spacer (24) for forming a gap between the display substrate and the back substrate;
- two kinds of particles differing in polarity (10a, 10b) sealed between the display substrate (2) and the back substrate (4) [col. 2, lines 45-47 and col. 6, lines 64-66].

a filter (30, 32, 34) of plural colors (R, G, B) for transmitting light of a specific wavelength,

Gordon 856 discloses wherein the filter is formed on the second side of the (the filter elements may also be located on the front surface of the front window (2), i.e.: second side of the display substrate);

It would have been obvious for one of ordinary skill in the art at the time of the invention to change the location of the color filter in Gordon 823 to the second side of the substrate as suggested to a well known element, i.e. color filter, as suggested by Gordon 856 (see col. 6, lines 45-49 of Gordon 856).

The combination of Gordon 823 and 856 does not discloses wherein the filter is divided into plural chromatic regions and plural of achromatic, each of the achromatic regions being disposed between adjacent chromatic regions. Oh-e discloses a filter is divided into plural chromatic regions and plural of achromatic, each of the achromatic regions being disposed between adjacent chromatic regions and fully separate by the black matrix for a display in Fig. 1.

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify the filter of the combination Gordon 823 and Gordon 856 to have the filter is divided into plural chromatic regions and plural of achromatic, each of the achromatic regions being disposed between adjacent chromatic regions as taught by Oh-e because it would provide a display which is capable of providing a wide viewing angle and a high image quality without generating the smear phenomenon (col. 2, lines 27-29 of Oh-e). It also obvious to one of ordinary skill in the art to recognize the

achromatic region of the filter of Oh-e would transmit reflected a light reflected by one kind of the particles to an outside of the reflective image medium.

In reference to claim 2, Gordon 823 discloses the two particles are white and black as claimed.

In reference to claims 3-4, Gordon 823 discloses two kinds of particles are respectively particles of which at least a surface is metal and black particles and having reflective and black particles. (see col. 5, lines 1-44; col. 7, lines 13-59)

In reference to claim 5, Gordon 823 discloses in Fig. 1 the substrate and the filter are integrated.

In reference to claim 6, Gordon 856 discloses the color filter medium can, for example, be a light-transmissive colored filter element, a colored light-reflecting panel, or the pigment suspension fluid itself can be colored and serve as the color filter medium (col.3, lines 35-40).

In reference to claim 7, Gordon 823 discloses the filter is divided into 3 regions for red, green, and blue colors (Fig. 1).

In reference to claim 8, Gordon 823 discloses the color filter is arranged in stripes (Fig. 1)

In reference in claim 10, Gordon 823 discloses the color filter medium selects the color reflected by each cell. The color filter medium can, for example, be a light-transmissive colored filter element disposed across the horizontal area of the cell, either above the suspension or below the suspension on top of the light-reflecting panel. An

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appropriately colored pigment suspension fluid, a colored light-reflecting panel, a color diffuser, or a painted surface can also serve as the color filter medium (col. 8, lines 8-18).

In reference to claim 12, Gordon 823 discloses the transparent achromatic wall 24 in Fig. 1 as claimed.

In reference to claim 13, Gordon 823 discloses electrodes 8 and 20 in Fig. 1 as claimed.

In reference to claim 19, refer to the rejection as applied to claim 1 for claiming the broader subject matter of claim 1.

In reference to claims 21, 24-29 refer to the rejection as applied to claims 1-7 and 14.

3. Claims 20, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon 823, Gordon 856 in view of Oh-e et al. (U.S Patent No. 6,392,732) and further in view of Hou et al. (U.S Patent No. 6,113,810), hereinafter Hou

In reference to claim 20, the combination of Gordon 823, Gordon 856 and Oh-e does not disclose second particles having black color and configured to move to a back substrate side as the first particles move to the surface of the display substrate.

Hou discloses an electrophoretic display second particles having black color and configured to move to a back substrate side as the first particles move to the surface of the display substrate as claimed.

It would have been obvious for one of ordinary skill in the art at the time of the invention to replace the pigments with particles with different charging polarity in the

combination of Gordon 823, Gordon 856 and Oh-e as taught by Hou because it would provide a display device image display device with highly contrast display images (col. 2, lines 15-20 of Hou).

In reference to claim 22, Hou discloses the particles has smaller than a size of the achromatic region 20 and concentrate in a portion, with the achromatic region portion in Fig. 1 to increase the reflected light.

In reference to claim 23, Oh-e in Fig. 1 discloses plurality of electrodes corresponding to the achromatic regions to control the particles to concentrate in the portion.

4. Claims 14-18 rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon 823, Gordon 856 in view of Oh-e as applied to claims 1-8, 10 and 12-13 and further in view of Comiskey (U. S. Patent No. 6,376,828).

In reference to claims 14 and 15, the combination of Gordon 823, Gordon 856 and Oh-e does not disclose the irradiating means for the display.

Comiskey discloses a front light for an electrophoretic display for emitting white light to the inside of the image display medium from the display substrate side of the image display medium (see Fig. 1).

It would have been obvious for one of ordinary skill in the art at the time of the invention was made to provide the light source to illuminate the display in the combination of Gordon 823, 856 and Oh-e as taught by Comiskey for lighting the display when ambient light decreases (col. 8, lines 15-20 of Comiskey).

In reference to claims 16-18, refer to the rejection as applied to claims 1 and 14-15. In addition, Comiskey discloses the light transmissive element 8 may comprise additional elements to enhance the versatility of the illuminated nonemissive electronic display 1.

In one embodiment of the invention, shown in FIG. 1, a light polarizing film 16 (corresponding to the spectral means) is provided adjacent first surface 8a to increase the uniformity of light passing through the second face 8b and reaching the viewer 20.

In another embodiment of the invention, a red/green/blue absorptive filter (not shown) is provided adjacent the first face 8a or second face 8b of the light transmissive element 8 to alter the wavelength of light passing through the first face 8a or second face 8b thereby creating a colored display (col. 6, line 62 – col. 7, line 6).

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon 823, Gordon 856, and Oh-e as applied to claims 1-8 above and further in view of Shirochi (U. S. Patent No. 5,872,654).

In reference to claim 9, the combination Gordon, Oh-e and Hou do not disclose the filter is one of the matrix mosaic type. Shirochi discloses color filters corresponding to three primary colors are placed relative to each pixel and the same color pixels are arranged having the mosaic type as claimed.

It would have been obvious for one of ordinary skill in the art at the time of the invention was made to learn the teaching of Shirochi, i.e., color filters corresponding to three primary colors are placed relative to each pixel and the same color pixels are



arranged having the mosaic pattern for providing a display device in which the diffusion for more than three pixels can be easily obtained (col. 2, lines 34-37 of Shirochi).

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1-10 and 12-29 have been considered but are not persuasive.

7. In response to applicant's argument that "the applied references, even if combined, fail to disclose "achromatic regions being configured to transmit a reflected light reflected by one kind of the particles to an outside of the reflective image display medium"; it is noted that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In the instant case, it obvious to one of ordinary skill in the art to recognize the achromatic region of the filter of Oh-e would transmit reflected a light reflected by one kind of the particles to an outside of the reflective image medium" as in the independent claims.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **DUC Q. DINH** whose telephone number is **(571)272-7686**. The examiner can normally be reached on Mon-Fri from 8:00.AM-4:00.PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **AMR A. AWAD** can be reached on **(571)272-7764**.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**Or faxed to:**

**(571) 273-8300 (for Technology Center 2600 only)**

Hand-delivery response should be brought to: Crystal Park II, 2121 Crystal Drive, Arlington, Va Sixth Floor (Receptionist)

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 305-4700.

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/Duc Q Dinh/  
Primary Examiner, Art Unit 2629